

HIV CTL Epitopes

Table 1 HIV HLA-A1 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 2 (TSM), 3 (DE), 4 (P), C term (Y)			[Kast et al.(1994), DiBrino et al.(1994b)]
HLA-A1 Anchor/auxiliary residues: 2 (TS), 3(D E), 4 (P), 7 (L), 9 (Y)			[Rammensee et al.(1995)]
p17(71-79 LAI)	GSEELRSLY	A1	[Brander & Walker(1996)], P. Goulder pers comm
Nef(66-80 BRU)	VGFPVTPQVPLRPMT	A1,B8	[Hadida et al.(1992)]
Nef(93-106 BRU)	EKGGLEGLIHSQRR	A1,B8	[Hadida et al.(1992)]
Nef(113-128 BRU)	WIYHTQGYFPDWQNYT	A1	[Hadida et al.(1992)]
Nef(132-147 BRU)	GVRYPLTFGWCYKLVP	A1,B8	[Hadida et al.(1992)]
Nef(182-198 BRU)	EWRFDSRLAFHHVAREL	A1,B8,B35	[Hadida et al.(1992), Hadida et al.(1995)]
Nef(192-206 BRU)	HHVARELHPEYFKNC	A1	[Hadida et al.(1992)]

Table 2 HIV HLA-A2 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 2 (LI), C term (VL)			[Falk et al.(1991), McMichael & Walker(1994)]
HLA-A*0201 Anchor/auxiliary residues: 2 (LM), 6 (V), 9 (V,L)			[Rammensee et al.(1995)]
HLA-A*0205 Anchor/auxiliary residues: 2 (VLIM), 6 (IVLA), 9 (L)			[Rammensee et al.(1995)]
p17(77-85 LAI)	S<u>L</u>YNTVATL	A2	[Parker et al.(1992), Parker et al.(1994), Tsomides et al.(1994)]
p17(77-85 LAI)	S<u>L</u>YNTVATL	A*0201	[van der Burg et al.(1996)]
p17(88-115 ARV)	VHQRIEIKDTKEALDKIEEQNKSKKKA	A2	[Achour et al.(1990)]
p24(151-159)	T<u>L</u>NAWVKVV	A2	[Parker et al.(1992), Parker et al.(1994)]
p24(193-203 BRU)	GHQA <u>AMQML</u> KE	A2	[Claverie et al.(1988)]
p24(219-233 BRU)	HAGPIAPGQMREPRG	A2	[Claverie et al.(1988)]
p24(263-279)	KRWIILGLNKI <u>R</u> MYC	A2	[Chen et al.(1990)]
p15(418-433 BRU)	KEGHQMKDCTERQANF	A2	[Claverie et al.(1988), Kast et al.(1994)]
p15(446-460 BRU)	GNFLQSRPEPTAPPF	A2	[Claverie et al.(1988)]
RT(267-277)	VLDVGDAYFSV	A*0201	[van der Burg et al.(1995), van der Burg et al.(1996)]
RT(346-354 LAI)	V<u>I</u>YQYMDDL	A2	[McMichael & Walker(1994), Brander & Walker(1995), Harrer et al.(1996a)]
RT(476-484 LAI)	I<u>L</u>KEPVHGV	A2	[Tsomides et al.(1991), Tsomides et al.(1994), Parker et al.(1992), Connan et al.(1994)]
RT(476-484 LAI)	I<u>L</u>KEPVHGV	A*0201	[Pogue et al.(1995), van der Burg et al.(1996)]
RT(640-648 HXB2R)	A<u>L</u>QDSGLEV	A2	[Brander et al.(1995)]
RT(956-964 HXB2R)	L<u>L</u>WKGEVA<u>V</u>	A2	[Parker et al.(1992), Parker et al.(1994), Brander et al.(1995)]
RT(956-964 HXB2R)	L<u>L</u>WKGEVA<u>V</u>	A*0201	[van der Burg et al.(1996)]
gp120(25-46 BRU)	LWVTVYYGVP <u>W</u> KEA <u>TTT</u> LFCA	A2	[Dadaglio et al.(1991)]
gp120(32-41 LAI)	K<u>L</u>WVT<u>V</u>YYG<u>V</u>	A*0201	[Dupuis et al.(1995)]
gp120(112-124 IIIB)	HEDI <u>I</u> SLWDQSL <u>K</u>	A2	[Clerici et al.(1991)]
gp120(120-128 LAI)	KTLPLCVT <u>L</u>	A*0201	[Dupuis et al.(1995)]
gp120(192-199 HXB2R)	K<u>L</u>TSCNTS<u>V</u>	A2	[Brander et al.(1995)]
gp120(197-205 HXB2R)	T<u>L</u>TSCNTS<u>V</u>	A2	[Garboczi et al.(1992)]
gp120(295-312 BRU)	SVEINCTRPNNNTRKSI	A2	[Dadaglio et al.(1991)]
gp120(315-329 IIIB)	RIQRGPGRAFVTIGK	A2,A11,A3	[Dadaglio et al.(1991), Clerici et al.(1991), Achour et al.(1993)]

HIV CTL Epitopes

Table 2 HIV HLA-A2 Epitopes: (cont)

Location	Epitope	HLA specificity	Reference
gp120(374-380 BRU)	PEIVTHS	A2	[Dadaglio et al.(1991)]
gp120(377-387)	NSGGEFFYSNS	A2	[Hickling et al.(1990)]
gp120(381-392 BRU)	KNCGGEFFYCNS	A2	[Dadaglio et al.(1991)]
gp120(428-443 IIIB)	KQIINMWQEVGKAMY	A2	[Cease et al.(1987), Clerici et al.(1991)]
gp120(421-440 LAI)	KQFINMWQEVGKAMY	A2	[Dadaglio et al.(1991)]
gp120(494-513 BRU)	VKIEPLGVAPTKAKRRVVQR	A2	[Dadaglio et al.(1991)]
gp41(747-755)	<u>R</u> <u>L</u> VNGSL <u>A</u> <u>L</u>	A2	[Parker et al.(1992)]
gp41(814-823 LAI)	<u>S</u> <u>L</u> LNATDIA <u>V</u>	A2	[Dupuis et al.(1995)]
gp41(815-823 LAI)	<u>L</u> <u>L</u> NATDIA <u>V</u>	A2	[Dupuis et al.(1995)]
gp41(834-848 IIIB)	DRVIEVVQGAYRAIR	A2	[Clerici et al.(1991)]
gp41(829-837 LAI)	<u>R</u> <u>V</u> IEV <u>L</u> QRA	A*0201	[Dupuis et al.(1995)]
Nef(73-82 LAI)	QVPLRPMTYK	A2	[Robertson et al.(1993)]
Nef(86-100 LAI)	DLSHFLKEKG <u>G</u> <u>L</u> EGL	A2,B35	[Robertson et al.(1993)]
Nef(136-145 LAI)	<u>P</u> <u>L</u> TFGWCY <u>K</u> <u>L</u>	A2	[Haas et al.(1996)]
Nef(180-189LAI)	<u>V</u> <u>L</u> EWRFDS <u>R</u> <u>L</u>	A2	[Haas et al.(1996)]
Nef(190-198 LAI)	AFHHVARE <u>L</u>	A2.1,A2.2,A2.4,B52	[Hadida et al.(1995), Haas et al.(1996)]

Table 3 HIV HLA-A3.1 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 2 (IL), 3 (F), C term (KY)			[DiBrino et al.(1993), McMichael & Walker(1994)]
p17(18-26 LAI)	<u>K</u> <u>I</u> RLRPGG <u>K</u>	A3.1	[McMichael & Walker(1994), Harrer et al.(1996b)]
p17(20-29)	<u>R</u> <u>L</u> RPGGKK <u>Y</u>	A3.1,Bw62	[Brander & Walker(1995)]
RT(325-333)	<u>A</u> <u>I</u> FQSSMT <u>K</u>	A3.1,A11,A33	[Brander & Walker(1995)]
gp120(37-46 LAI)	<u>T</u> <u>V</u> YYGV <u>P</u> VW <u>K</u>	A3.1	[Johnson et al.(1994a), Hammond et al.(1995)]
gp41(768-778 NL43)	<u>R</u> <u>L</u> R <u>D</u> LLLIVTR	A3.1,A31	[Takahashi et al.(1991), McMichael & Walker(1994)]
Nef(73-82 NL432)	QVPLRPMTY <u>K</u>	A2,A3.1	[Koenig et al.(1990), Culmann et al.(1991), DiBrino et al.(1993)]
Nef(84-92 LAI)	<u>D</u> <u>L</u> SHFLKE <u>K</u>	A3.1	[Culmann et al.(1991), McMichael & Walker(1994)]

Table 4 HIV HLA-A3 Epitopes:

Location	Epitope	HLA specificity	Reference
HLA-A3 Anchor/auxiliary residues: 2 (LVM), 3 (FY), 6 (IMFVLT), 7 (ILMF), 9 (KYF), 10 (K)			[Rammensee et al.(1995)]
p17(18-26 LAI) RT(325-333 IIIB)	KIRLRPGGK AIFQSSMTK	[Harrer et al.(1996b)] A3,A11	[Brander & Walker(1996), Threlkeld et al.(1996)],
gp120(315-329 IIIB)	RIQRGPGRAFVTIGK	A2,A3,A11	[Achour et al.(1993)]
Nef(73-82 BRU)	QVPLRPMTYK	A3,A11,B35	[Culmann et al.(1991)]
Nef(73-82 BRU)	VPLRPMTYK	A3,B35	[Carreno et al.(1992)]
Nef(190-198 LAI)	AFHHVAREK	A3	[Hadida et al.(1995)]

Table 5 HIV HLA-A11 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 2 (IL), C term (K)			[Zhang et al.(1993), McMichael & Walker(1994)]
HLA-A*1101 Anchor/auxiliary residues: 2 (VIFY), 3 (MLFYIA), 7 (LIYVF), 9 (K), 10 (K), 11(K)			[Rammensee et al.(1995)]
p17(84-92)	TLYCVHQRI	A11	[Brander & Walker(1995)]
RT(313-321)	AIFQSSMTK	A3,A11	[Brander & Walker(1996), Threlkeld et al.(1996)]
RT(325-333 LAI)	AIFQSSMTK	A3.1,A11,A33	[Zhang et al.(1993), Johnson & Walker(1994)]
RT(325-349)	AIFQSSMTKILEPFRKQNPDIVIYQ	A11	[Jassoy et al.(1993), Price et al.(1995)]
RT(342-366 LAI)	NPDIVIYQYMDDLYVGSDLEIGQHR	A11	[Walker et al.(1989)]
RT(495-515 LAI)	EIQKQQGQWTY	A11	[Walker et al.(1989)]
RT(507-519 LAI)	QIYQEPMFKNLKTG	A11	[Johnson & Walker(1994)]
gp120(315-329 IIIB)	RIQRGPGRAFVTIGK	A2,A3,A11	[Achour et al.(1994)]
Nef(75-82 LAI)	QVPLRPMTYK	A2,A3,A11,B35	[Culmann et al.(1991), Couillin et al.(1994), Couillin et al.(1995)]
Nef(75-82 LAI)	VPLRPMTYK	A11	[Zhang et al.(1993)]
Nef(84-92 LAI)	AVDLSHFLK	A11	[Couillin et al.(1994), Couillin et al.(1995)]

HIV CTL Epitopes

Table 6 HIV HLA-A19 Epitopes:

Location	Epitope	HLA specificity	Reference
RT(71-79 LAI)	ITLWQRPLV	A19(A7401), A28(A6802)	[Brander & Walker(1996)], S. Rowland-Jones pers comm

Table 7 HIV HLA-A24 Epitopes:

Location	Epitope	HLA specificity	Reference
	Anchor/auxiliary residues: 2 (Y), 5 (IV), 6 (F), 9 (ILF)		[Rammensee et al.(1995)]
p17(28-36 LAI)	K <u>Y</u> KLKHIVW	A24	[Brander & Walker(1996)], D. Lewinsohn pers comm
gp120(53-62 LAI)	LFCASCAKAY	A24	[Brander & Walker(1995)]
gp41(584-591 NL43)	<u>Y</u> LKDQQL <u>L</u>	A24,B8	[Dai et al.(1992)]
Nef(120-144 SF2)	YFPDWQNYTPGPGI <u>R</u> YPL <u>T</u> FGWCYK	A24	[Jassoy et al.(1992)]

Table 8 HIV HLA-A25 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(203-212)	ETINEEAAEW	A25	[van Baalen et al.(1996), Klenerman et al.(1996)]
Nef(182-198 LAI)	EWRFDSRLAFHHVAREL	A25	[Cheynier et al.(1992), Hadida et al.(1995)]

Table 9 HIV HLA-A26 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(167-175)	EVIPMFSAL	A26	[Brander & Walker(1996)], P. Goulder in press
RT(593-603 IIIB)	ETFYVDGAANR	A26	B. Walker, pers comm

Table 10 HIV HLA-A28 Epitopes:

Location	Epitope	HLA specificity	Reference
RT(71-79 LAI)	ITLWQRPLV	A19,A28(A6802)	[Brander & Walker(1996)], S. Rowland-Jones pers comm
RT(85-93 Clade D)	DTVLEEMNL	A28(A6802)	[Brander & Walker(1996)], S. Rowland-Jones pers comm
RT(518-526 U455)	DVKQLTEVV	A28(A6802)	[Brander & Walker(1996)], S. Rowland-Jones pers comm
RT(592-602 LAI)	AETFYVDGAAN	A28	[Brander & Walker(1996)], P. Johnson pers comm

Table 11 HIV HLA-A29 Epitopes:

Location	Epitope	HLA specificity	Reference
gp120(376-384 LAI)	FNCGGEFFY	A29	[Brander & Walker(1996)], C. Wilson, in press in J. Virol.

Table 12 HIV HLA-A30 Epitopes:

Location	Epitope	HLA specificity	Reference
gp41(852-863 HXB2)	RRIRQGLERILL	A30 and B8	[Lieberman et al.(1992)]

Table 13 HIV HLA-A31 Epitopes:

Location	Epitope	HLA specificity	Reference
HLA-A*3101 Anchor/auxiliary residues: 2 (LVYF), 3 (FLYW), 6 (LFVI), 9 (R)			[Rammensee et al.(1995)]
gp41(606-614 LAI)	SYHRLRD <u>L</u> <u>L</u> <u>I</u> VTR	A31	[Hammond et al.(1995)]
gp41(770-780 BH10)	<u>R</u> <u>L</u> RDL <u>L</u> <u>L</u> I VTR	A3.1,A31	[Safrit et al.(1994a), Safrit et al.(1994b)]

HIV CTL Epitopes

Table 14 HIV HLA-A32 Epitopes:

Location	Epitope	HLA specificity	Reference
gp41(701-720 BH10)	VLSIVNRVRQGYSPLSFQTH	A32	[Safrit et al.(1994a)]

Table 15 HIV HLA-A33 Epitopes:

Location	Epitope	HLA specificity	Reference
HLA-A*3302	Anchor/auxiliary residues: 2 (AILFYV), 9 (R)	[Rammensee et al.(1995)]	
p17(121-132 HXB2R)	DTGHSNQVSQNY	A33,B27	[Buseyne et al.(1993)]
p24(263-277 LAI)	KRW <u>IIL</u> GLNKIVM RY	A33	[Buseyne et al.(1993)]
RT(325-333 LAI)	AIFQSSMTK	A3.1,A11,A33	K. Ariyoshi, unpublished

Table 16 HIV HLA-B7 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 1 (A), 2 (P), 3 (R), and C term (LV)			[Englehard et al.(1993), McMichael & Walker(1994)]
Anchor/auxiliary positions: 2 (P), 3 (R), 9 (LF)			[Rammensee et al.(1995)]
p24(179-187 IIIB)	<u>A</u> TPQDLNTM	B7	B. Walker, pers comm
p24(180-188 IIIB)	T <u>P</u> QDLNTM <u>L</u>	?B7	B. Walker pers comm
p24(355-363 LAI)	G <u>P</u> GHKARV <u>L</u>	B7	[Brander & Walker(1996)], P. Goulder pers comm
RT(308-320)	WKGSPAIFQSSMT	B7	[Brander & Walker(1995)]
gp120(32-56)	TEKLWTVVYYGVPVVKEATTLFCA	B7	[Johnson & Walker(1994)]
gp120(302-312 HXB2)	R <u>P</u> NNNTRKSI	B7,B18	[Safrit et al.(1994b), Ham- mond et al.(1995), Wolinsky et al.(1996)]
gp41(848-856 LAI)	I <u>P</u> RRIRQ <u>G</u> L	B7	[Brander & Walker(1995)]
Nef(68-77 LAI)	FPVTPQVPLR	B7	[Haas et al.(1996)]
Nef(102-116 LAI)	HSQRQRDILDLWIYH	B7	[Brander & Walker(1996)], P. Goulder, pers comm
Nef(126-138 BRU)	NYT <u>P</u> PGPVRYPL <u>T</u>	B7	[Culmann et al.(1991)]
Nef(128-137 LAI)	TPGPGVRYPL	B7	[Haas et al.(1996)]

Table 17 HIV HLA-B8 Epitopes:

Location	Epitope	HLA specificity	Reference
	Anchor residues: 3 (K), 5 (K), and C terminus (I)		[Sutton et al.(1993), Hill et al.(1992), McMichael & Walker(1994)]
	Anchor/auxiliary residues: 3 (K), 5 (KR), 9 (L)		[Rammensee et al.(1995)]
p17(21-35)	LRPGGKKKYKLKHIV	B8	[Nixon & McMichael(1991)]
p17(25-35 SF2)	GGKKKYKLKHIV	B8	[Phillips et al.(1991)]
p17(24-32)	GGKKKYKLK	B8	[Klenerman et al.(1994), Klenerman et al.(1995), Nowak et al.(1995)]
p17(24-32 LAI)	GG<u>KK</u>YKL	B8	Price97,S. Reid, submitted
p17(74-82 LAI)	EL<u>R</u>SLYNTV	B8	[Brander & Walker(1996)], P. Goulder, submitted
p17(93-101)	E<u>I</u>KTDTKEAL	B8	[DiBrino et al.(1994b)]
p24(253-274 BH10)	NPPIPVGEIYKRWIIILGLNKIV	B8	[Johnson et al.(1991)]
p24(253-267)	NPPIPVGEIYKRWII	B8	[Gotch et al.(1990)]
p24(255-274 SF2)	NPPIPVGEIYKRWII	B8	[Phillips et al.(1991)]
p24(256-270 LAI)	IPVGEIYKRWIIILGL	B8	[Buseyne et al.(1993)]
p24(259-267 LAI)	GEIY <u>KRWII</u>	B8	[Sutton et al.(1993), Klenerman et al.(1994), Nowak et al.(1995), McAdam et al.(1995)]
p24(313-322 LAI)	VKNWMTETLL	B8	[Brander & Walker(1996)], P. Johnson pers comm
p24(323-337)	VQ NANP DCKT ILKAL	B8	[Nixon & McMichael(1991), Phillips et al.(1991)]
p24(329-337 LAI)	D <u>C</u> KT ILKAL	B8	[Sutton et al.(1993), Nowak et al.(1995)]
RT(160-184 HXB2)	IETVPVKLPGMDGPKVQWPLTEE	B8	[Walker et al.(1989)]
RT(185-193 LAI)	GPK <u>V</u> QWPL	B8	[Nixon & McMichael(1991), Phillips et al.(1991), Meier et al.(1995)]
gp41(586-593)	YL <u>K</u> DQQLL	A24,B8	[Dai et al.(1992), Johnson et al.(1992), Sutton et al.(1993)]
gp41(844-863 HXB2)	YRAIRHIPRRIRQGLERILL	B8	[Lieberman et al.(1992)]
gp41(852-863 HXB2)	RRI <u>R</u> QGLE <u>R</u> ILL	A30,B8	[Lieberman et al.(1992)]
Nef(13-20 LAI)	WPTVRERM	B8	[Brander & Walker(1996)], P. Goulder, pers comm
Nef(66-80 BRU)	VGFPVTPQVPLRMT	A1 and B8	[Hadida et al.(1992)]
Nef(89-97 LAI)	FL <u>K</u> E <u>K</u> GGL	B8	[Price et al.(1997), McMichael & Walker(1994)]
Nef(93-106 BRU)	EKGGLEGLIHSQR	A1,B8	[Hadida et al.(1992)]
Nef(132-147 BRU)	GVRYPLTFGWCYKLVP	A1,B8	[Hadida et al.(1992)]
Nef(182-198 BRU)	EWRFDSRLAFHHVAREL	A1,B8,A25,B35	[Hadida et al.(1992), Cheynier et al.(1992), Hadida et al.(1995)]

HIV CTL Epitopes

Table 18 HIV HLA-B12 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(169-184 LAI)	IPMFSALSEGATPQDL	B12(44)	[Buseyne et al.(1993)]

Table 19 HIV HLA-B13 Epitopes:

Location	Epitope	HLA specificity	Reference
Nef(103-127 PV22)	SQRRQDILDLWIYHTQGYFPDWQNY	B13	[Jassoy et al.(1993)]

Table 20 HIV HLA-B14 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor/auxiliary positions: 2 (RK), 3 (LYF), 5 (GH), 6 (IL), 9 (L)			[DiBrino et al.(1994a)]
p24(173-194 BH10)	SALSEGATPQDLNTMLNTVGGH	B14	[Johnson et al.(1991)]
p24(183-191 LAI)	DLNTMLNTV	B14	[Nixon & McMichael(1988), McMichael & Walker(1994)]
p24(298-306 LAI)	D<u>R</u>FWKTLRA	B14	[Brander & Walker(1995), Harrer et al.(1996b)]
p24(305-313)	RAEQASQEV	?B14	[Price et al.(1995)]
RT(648-672 PV22)	AIYLALQDSGLEVNIVTDSQYALGI	B14	[Kalams et al.(1994)]
RT(648-672)	ALQDSGLEVVTDQSQYALGI	B14	[Brander & Walker(1995)]
RT(663-672 LAI)	VTDSQYALGI	B14	[Brander & Walker(1995)]
gp41(583-592 PV22)	VERYLKDQQL	B14	[Jassoy et al.(1993)]
gp41(584-592 HXB2)	E<u>R</u>YLKDQQL	B14	[Johnson et al.(1992), Jas- soy et al.(1993), Kalams et al.(1994), DiBrino et al.(1994a), Hammond et al.(1995)]

Table 21 HIV HLA-B17 Epitopes:

Location	Epitope	HLA specificity	Reference
Nef(115-125 BRU)	YHTQGYFPQWQ	B17	[Culmann et al.(1991)]
Nef(117-128 BRU)	TQGYFPDWQNYT	B17,B37	[Culmann et al.(1991)]

Table 22 HIV HLA-B18 Epitopes:

Location	Epitope	HLA specificity	Reference
gp120(32-56)	TEKLWVTVYYGVPVWKEATTLFCA	B7,B18	[Johnson et al.(1994a), Hammond et al.(1995)]
Nef(132-147 BRU)	GVRYPLTFGWCYKLP	B18	[Culmann et al.(1991)]
Nef(132-147 BRU)	GVRYPLTFGWCYKLP	B18	[Culmann et al.(1991)]
Nef(134-144 LAI)	RYPLTFGWCYK	B18	[Couillin et al.(1994)]

HIV CTL Epitopes

Table 23 HIV HLA-B27 Epitopes:

Location	Epitope	HLA specificity	Reference
	Anchor residues: 2 (R) C term (KR)		[Jardetzky et al.(1991), McMichael & Walker(1994)]
	HLA-B*2702 Anchor/auxiliary positions: 2 (R), 9 (FYILW)		[Rammensee et al.(1995)]
	HLA-B*2705 Anchor/auxiliary positions: 2 (R), 9 (LFYMIRHK)		[Rammensee et al.(1995)]
p17(18-27 LAI)	KIRLRPGGKK	B27	[Brander & Walker(1996)], D. Lewinsohn pers comm
p17(19-27 LAI)	IIRLRPGGKK	B27	[Brander & Walker(1996)], D. Lewinsohn pers comm
p24(265-280 BRU)	YKRWIILGLNKIVRMYSPT	B27	[Dadaglio et al.(1991)]
p24(260-269 HIV-2)	RRWIQLGLQK	B2703	[Brander & Walker(1996)]
p24(266-277)	KRWIILGLNKIVRMY	B27	[Nixon et al.(1988), Bouil- lot et al.(1989), Meyer- hans et al.(1991), Nixon et al.(1990)]
p24(265-276)	KRWIILGLNKIV	B27	[Jardetzky et al.(1991)]
p24(263-272 LAI)	KRWIILGLNK	B27	[Buseyne et al.(1993), Klen- erman et al.(1994), Nietfeld et al.(1995)]
p24(263-272)	KRWIIMGNK or KRWIILGNK	B27	[Nowak et al.(1995)]
gp120(312-320 LAI)	GRAFVTIGK	B27	[Jardetzky et al.(1991)]
gp41(788-809 HXB2)	IVELLGRRGWEALKYWWNLLQY	B27	[Lieberman et al.(1992)]
gp41(791-799 LAI)	GRRGWEALK	B27	[McMichael & Walker(1994)], pers comm J. Liebermann
Nef(105-114 LAI)	RRQDILDWL	B27(B2705)	[Brander & Walker(1996)], P. Goulder pers comm

Table 24 HIV HLA-B35 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 2 (P), C term (Y)			[Hill et al.(1992), McMichael & Walker(1994)]
HLA-B*3501 Anchor/auxiliary residues: 2 (P), 9(YFLMI), 10 (Y)			[Rammensee et al.(1995)]
p17(36-44 LAI)	WASRELERF	B35	[Brander & Walker(1996)], P. Goulder pers comm
p17(130-138)	NSSKV <u>SQNY</u>	B35	[Rowland-Jones et al.(1995)]
p17(130-138 HIV-2)	<u>PPSGKGGNY</u>	B35	[Rowland-Jones et al.(1995)]
p24(260-268 LAI)	<u>PPIPVGDIY</u>	B35	[Rowland-Jones et al.(1995)]
p24(245-253 HIV-2)	<u>NPVPVGNIY</u>	B35	[Rowland-Jones et al.(1995)]
RT(273-282 IIIB)	VPLDEDFRKY	B35(B*3501)	[Shiga et al.(1996)]
RT(311-319 SF2)	SPAIFQSSM	B35(B3501)	[Shiga et al.(1996)]
RT(342-350 LAI)	<u>HPDIVIYQY</u>	B35	[Rowland-Jones et al.(1995)]
RT(342-350 HIV-2)	<u>NPDVILIQY</u>	B35	[Rowland-Jones et al.(1995), Shiga et al.(1996)]
RT(448-456 SF2)	<u>IPLTEEAEL</u>	B35(B*3501),B51	[Shiga et al.(1996)]
RT(587-597 SF2)	<u>EPIVGAETFY</u>	B35(B*3501)	[Shiga et al.(1996)]
RT(587-597 SF2)	<u>EPIVGAETF</u>	B35(B*3501)	[Shiga et al.(1996)]
gp120(42-52 PV22)	<u>VPVVKEATTTL</u>	B35	[Brander & Walker(1995)]
gp120(77-85 SF2)	<u>DPNPQEVL</u>	B35(B*3501),B51	[Shiga et al.(1996)]
gp120(255-263 SF2)	<u>RPIVSTQLL</u>	B35(B*3501)	[Shiga et al.(1996)]
gp41(605-615 LAI)	TAVPWNASW	B35	[Johnson et al.(1994a), Hammond et al.(1995)]
gp41(606-614 HXB2)	TAVPWNASW	B*3501	[Ferris et al.(1996)]
Nef(72-80 SF2)	FPVRPQVPL	B35(B*3501)	[Shiga et al.(1996)]
Nef(73-82 BRU)	QVPLRPMTYK	A3,A11,B35	[Culmann et al.(1991)]
Nef(73-82 LAI)	<u>VPLRPMTY</u>	B35,A3	[Rowland-Jones et al.(1995)]
Nef(75-85 SF2)	RPQVPLRPMTY	B35(B*3501)	[Shiga et al.(1996)]
Nef(75-82)	<u>VPLRPMTY</u>	B*3501	[Smith et al.(1996)]
Nef(86-100 LAI)	DLSHFLKEKGGLLEG	A2,B35	[Buseyne et al.(1993)]
Nef(139-147 SF2)	YPLTFGWCF	B35(B*3501)	[Shiga et al.(1996)]
Nef(182-198 LAI)	EWRFDSRLAFHHVAREL	A1,B8,A25,B35	[Hadida et al.(1995), Buseyne et al.(1993)]
Nef(186-193 LAI)	DSRLAFHH	B35	[Hadida et al.(1995)]

Table 25 HIV HLA-B37 Epitopes:

Location	Epitope	HLA specificity	Reference
HLA-B*3701 Anchor/auxiliary residues: 2 (DE), 5 (VI), 8 (FML), 9 (IL)			[Rammensee et al.(1995)]
Nef(117-128 BRU)	TQGYFPDWQNYT	B17,B37	[Culmann et al.(1991)]

HIV CTL Epitopes

Table 26 HIV HLA-B42 Epitopes:

Location	Epitope	HLA specificity	Reference
p17(20-29 IIIB)	RLRPGGKKKY	B42	[Wilkes et al.(1996)]
RT(437-446 IIIB)	IYPGIKVRQL	B42	[Wilkes et al.(1996)]

Table 27 HIV HLA-B51 Epitopes:

Location	Epitope	HLA specificity	Reference
HLA-B5101 Anchor/auxiliary residues: 2 (APG) 9 (FI)			[Rammensee et al.(1995)]
HLA-B5102 Anchor/auxiliary residues: 2 (PAG), 3 (Y), 9 (IV)			[Rammensee et al.(1995)]
HLA-B5103 Anchor/auxiliary residues: 2 (APG), 3 (Y), 9 (VIF)			[Rammensee et al.(1995)]
HLA-B51 Anchor/auxiliary residues: 2 (P), 3 or 4 (VL), 9 (VLI)			[Connan et al.(1994)]
p24(324-335 PV22)	QNANPDCKTILK	B51	[Brander & Walker(1995), Wilkes et al.(1996)]
RT(448-456 SF2)	<u>I</u> PLTEEAEL	B35,B51(B*5101)	[Shiga et al.(1996)]
gp120(77-85 SF2)	D <u>PNPQE</u> VVL	B35,B51(B*5101)	[Shiga et al.(1996)]
Nef(186-194 BRU)	DS <u>R</u> LA <u>FHHV</u>	B51	[Connan et al.(1994)]

Table 28 HIV HLA-B52 Epitopes:

Location	Epitope	HLA specificity	Reference
HLA-B5201 Anchor/auxiliary residues: 2 (Q), 3 (FYI), 5 (LIV), 8 (IV), 9 (IV)			[Rammensee et al.(1995)]
p24(194-202 LAI)	<u>H</u> QAAMQMLK	B52	[Brander & Walker(1996)], P. Goulder, pers comm
p24(273-282 IIIB)	IVRMYSPTSI	?B52	[Wilkes et al.(1996)]
Nef(188-196 LAI)	RLAFHHVAR	B52	[Hadida et al.(1995)]
Nef(190-198 LAI)	AFHHVAREL	B52,A2.1,A2.2,A2.4	[Hadida et al.(1995)]

Table 29 HIV HLA-B53 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 2 (P), C term (YFW)			[Hill et al.(1992), McMichael & Walker(1994)]
Anchor/auxiliary residues: 2 (P)			[Rammensee et al.(1995)]
p17(173-181 HIV-2) RT(547-556 IIIB)	T <u>P</u> YDINQML PIQKETWET <u>W</u>	B53 B53/Cw2	[Gotch et al.(1993)] [Wilkes et al.(1996)]

Table 30 HIV HLA-B55 Epitopes:

Location	Epitope	HLA specificity	Reference
gp120(42-51 PV22)	VPVWKEATTT	B55	[Brander & Walker(1995)]

Table 31 HIV HLA-B57 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(147-155 PV22)	ISPRTLNAW	B57	[Johnson et al.(1991), Brander & Walker(1996)], P. Goulder in press
p24(162-172 LAI)	KAFSPEVIPMF	B57	[Brander & Walker(1996)], P. Goulder in press
p24(240-249)	TSTLQEIQIGW	B57,B5801	P. Goulder, pers comm
p24(311-319 LAI)	QASQEVKNW	B57	[Brander & Walker(1996)], P. Goulder in press
Nef(130-143 LAI)	PGPVRYPLTFGWCY	B57	[Brander & Walker(1996)], P. Goulder in press
Nef(133-148 LAI)	VRYPPLTFGWCYKLVPV	B57	[Brander & Walker(1996)], P. Goulder in press

Table 32 HIV HLA-B58 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(105-114)	TSTLQEIQIGW	B57,B5801	P. Goulder, pers comm

HIV CTL Epitopes

Table 33 HIV HLA-Bw52 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(193-214 BH10)	GHQAAMQMLKETINEAAEWDR	Bw52	[Johnson et al.(1991)]

Table 34 HIV HLA-Bw57 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(143-164 BH10)	VHQAIISPRTLNAWVKVVEEKAF	Bw57	[Johnson et al.(1991), Buseyne et al.(1993)]
p24(153-174) BH10	NAWVKVVEEKAFSPEVPMFSA	Bw57	[Johnson et al.(1991), Buseyne et al.(1993)]

Table 35 HIV HLA-Bw60 Epitopes:

Location	Epitope	HLA specificity	Reference
RT(359-383 HXB2)	DLEIGQHRTKIEELRQHLLRWGLTT	Bw60	[Walker et al.(1989)]

Table 36 HIV HLA-Bw62 Epitopes:

Location	Epitope	HLA specificity	Reference
p17(18-42 BH10)	KIRLRPGKKYKLKHIVWASRELE	Bw62	[Johnson et al.(1991)]
p17(20-29 LAI)	RLRPGGKKKY	A3.1 and Bw62	[McMichael & Walker(1994), Brander & Walker(1995)]
p24(263-284 BH10)	KRWIILGLNKIVRMYSPTSILD	Bw62	[Johnson et al.(1991)]
p24(265-284 SF2)	KRWIILGLNKIVRMYSPTSI	?Bw62	[van Baalen et al.(1993)]
p24(268-277 LAI)	LGLNKIVRMY	Bw62	[McMichael & Walker(1994)]
RT(415-426 IIIB)	LVGKLNWASQIY	Bw62	[Brander & Walker(1996)], P. Johnson pers comm
RT(476-485 LAI)	ILKEPVHGKY	Bw62	[Johnson et al.(1991), McMichael & Walker(1994)]
Nef(118-127 LAI)	QGYFPDWQNY	Bw62	[McMichael & Walker(1994), Brander & Walker(1995)]

Table 37 HIV HLA-Cw1 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(168-175 LAI)	VIPMFSAL	Cw01.02	[Brander & Walker(1996)], P. Goulder, submitted

Table 38 HIV HLA-Cw3 Epitopes:

Location	Epitope	HLA specificity	Reference
HLA-Cw*0301 Anchor/auxiliary residues: 3 (VIYLM), 4 (P), 6 (FY), 9 (LFMI)			[Rammensee et al.(1995)]
p24(140-152 IIIB)	GQMVHQAI <u>PRTL</u>	Cw3	[Littaua et al.(1991)]

Table 39 HIV HLA-Cw4 Epitopes:

Location	Epitope	HLA specificity	Reference
Anchor residues: 2 (YPF), C term (FLM)			[Falk et al.(1994), McMichael & Walker(1994)]
HLA-Cw*0401 Anchor/auxiliary residues: 2 (YPF), 6 (VIL), 9 (LFM)			[Rammensee et al.(1995)]
gp120(376-383 HXB2R)	<u>S</u> FNCGGEFF	Cw4	[Johnson et al.(1993), Wolinsky et al.(1996)]

Table 40 HIV HLA-Cw8 Epitopes:

Location	Epitope	HLA specificity	Reference
p24(305-314)	RAEQASQEVK	Cw8	[Johnson et al.(1991)]
	Note: Originally reported as B14, but not presented by B14 transfected cells		
	Due to the linkage disequilibrium of Cw8 and B14, the restriction element was unclear		
RT(663-672 IIIB)	VTDSQYALGI	Cw8	[Brander & Walker(1996)], P. Johnson pers comm
	Note: Originally reported here in 1995 as B14, but not presented by B14 transfected cells		